

**Geisum Wellhead Platform Development Project
WP-A and WP-B
Zeit Bay – Egypt**



CLIENT

Geisum Oil Company

SUMMARY

WP-A Platform

Geisum Oil Company aimed to enhance its production by using jet pumping system. This required modifying the existing receiving and separation facility on the platform. This required as well the installation of a new jet pumping system with higher capacity. The new system consists of:

- Oil triplex pumps.
- Two phases production separator.
- Transfer pumps.
- Power manifold.
- Flaring system.



WP-B PLATFORM

Geisum Oil Company aimed to enhance its production by using jet pumping system. This required modifying the existing receiving and separation facility on the platform. This required as well the installation of a new jet pumping system with higher capacity. The new system consists of:

- A pumping system with electrical motor driven instead of the existing triplex pumps.
- Pressure vessel
- Power manifold to distribute the power fluid.

SCOPE

Providing the engineering consultants and manpower required to develop all the process, instrumentation and piping engineering work jointly with Geisum Oil Company project team. This scope of work included the process simulations, process specifications, engineering deliverables and relevant drawings.

DESCRIPTION

OnSpec used the latest version of the process simulation (Pro/II and HYSYS) to simulate the existing and the new process.

The design model was developed to include the main processing facilities as follow:

- Pumping System
- Pressure Vessel.
- Power Manifold.
- Production Manifold
- Interconnecting piping system.
- Instrument air and drain system

The development of the design included the following activities:

- Development & validate the design basis.
- Generate the Heat and material balance tables.
- Develop Process Flow Diagram for the Process (PFD).
- Develop and validate design P&IDs and complete process package design including:
 - o Control philosophy, and required instrumentation.
 - o Line sizing, Hydraulic calculations, and manual valve sizing
 - o Equipment sizing
 - o Process mechanical data sheet
 - o Electrical data sheets for pumps and compressor
 - o Instrument data sheet
- Providing Process data for instrumentation.
- Development of equipment specifications
- Development of equipment data sheet & package application sheet.
- Review utilities requirement
- Development of the commissioning and start up procedures.
- Vendor print review